

5th National Conference on Access Management

UTAH DEPARTMENT OF TRANSPORTATION ACCESS MANAGEMENT STUDY



**The UTAH DEPARTMENT OF TRANSPORTATION, in association with
FEHR & PEERS ASSOCIATES, INC., conducted a project study to define
selected elements for a statewide ACCESS MANAGEMENT PROGRAM**



PRESENTATION OUTLINE:

- 1. BACKGROUND**
- 2. UDOT Access Management Study Project Scope**
- 3. PROJECT PROCESS, Development of Manual ...**
 - 1. UDOT Highway Access Categories**
 - 2. UDOT Access Category Standards**
 - 3. UDOT Access Permit Process**
- 4. WHAT'S NEXT?**



BACKGROUND...

WHAT WAS “BROKEN”? OR, WHY ARE WE HERE TODAY?

What is the access permit process?

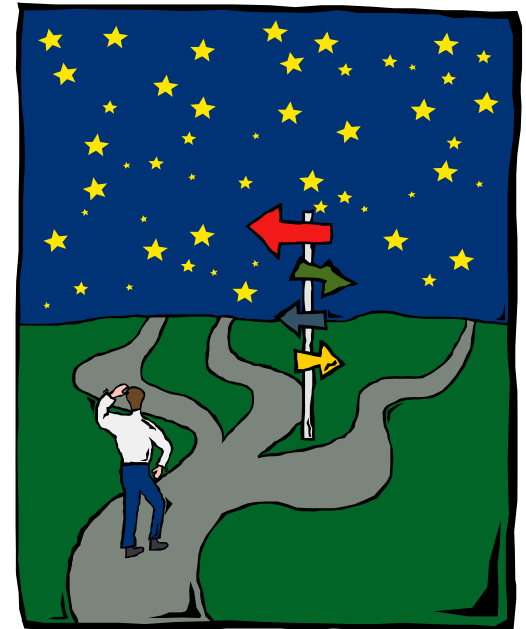
Why do I need a permit? Who is involved?

Where and how do I get a permit?

What is a traffic study?

Permits Fees? How much?

What about local government standards?





BACKGROUND...

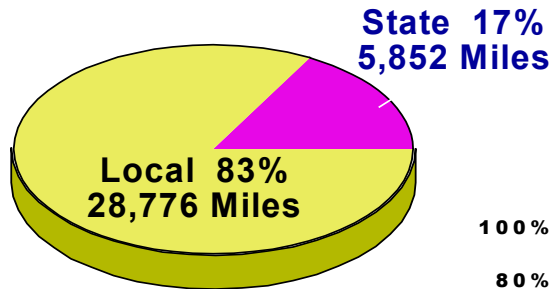
WHAT WE KNEW ABOUT UDOT and the PERMIT SYSTEM:

- Utah in a “boom” economy in the 1990’s, pace and intensity of development increased during that time.
- Sophistication of Traffic Engineering increased in the 90’s
- Decentralized Permitting Process across (4) UDOT Regions
- “Game Playing” in Permitting
 - UDOT vs. Owner, Developer, & Municipality
 - Politics and Networking in the Process
- Lack of Uniform Permit Process

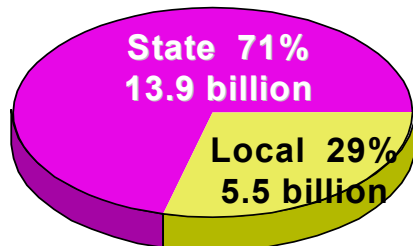


Utah Highway System

HIGHWAY SYSTEM STATISTICS IN UTAH

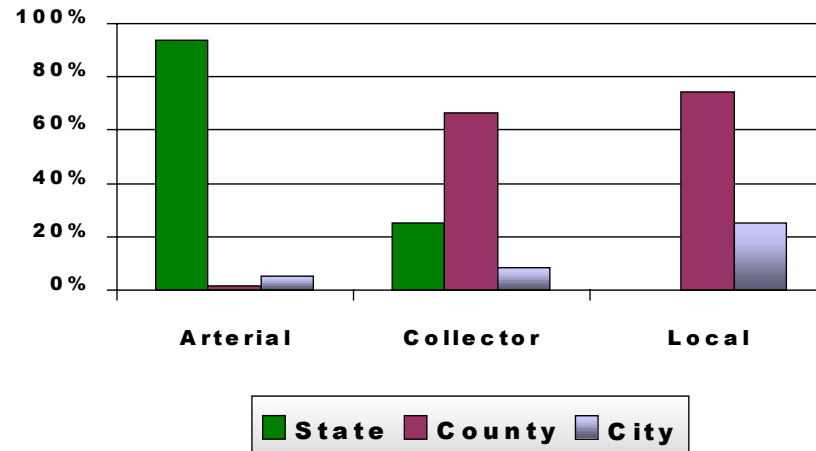


34,628 Total Miles



19.4 billion VMT

Ownership by Function Class

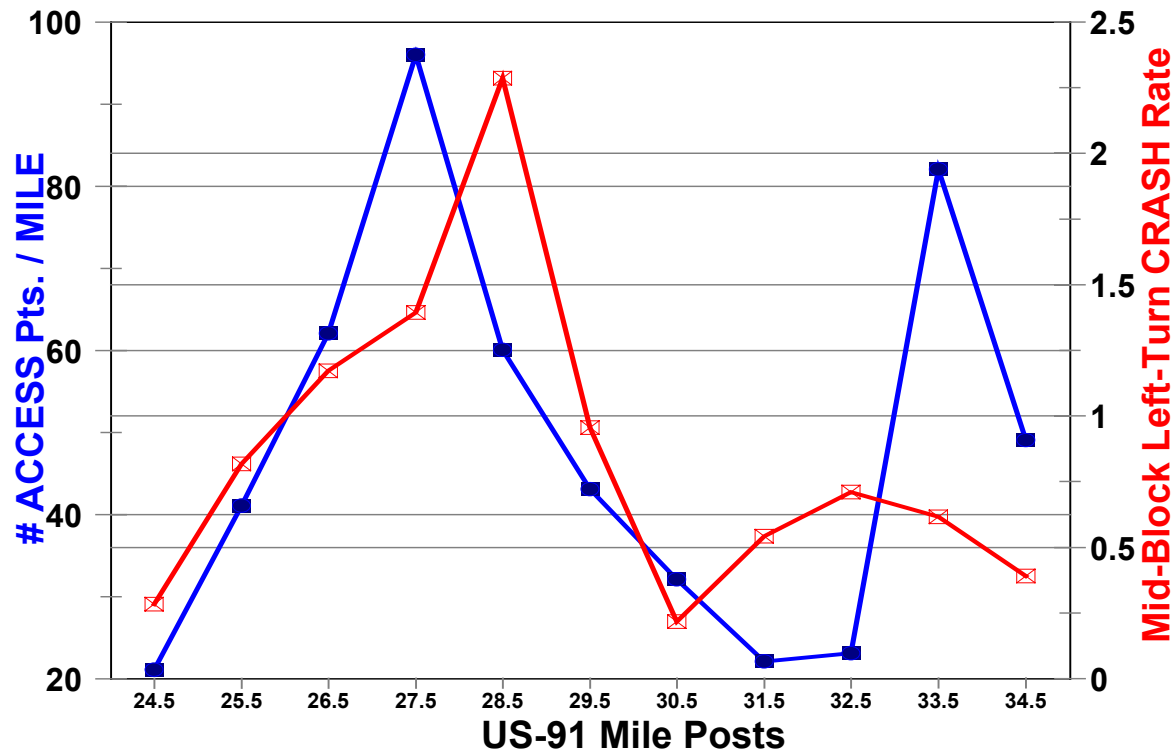




Case Study in Northern Utah

Access vs Mid-Block Left-Turn Crashes

US-91 Cache Valley Corridor Study 1998





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ACCESS MANAGEMENT STUDY

PRIOR 2000

Access
Management
Task Force

UDOT Access
Management
Q.I.T.

Agreement of
Comprehensive
Access
Management
Approach

YEAR 2000

Access
Management
Program
Study

Update:

- Permit Process

Develop:

- Access Manual
 - Categories
 - Standards
- Municipal Guide

YEAR 2001

UDOT Adoption
of:
A.M. Rules
Highway
Categories

GIS Database
Feasibility

Initiate Revision
of:
Traffic Impact
Study
A.M. Rules

YEAR 2002

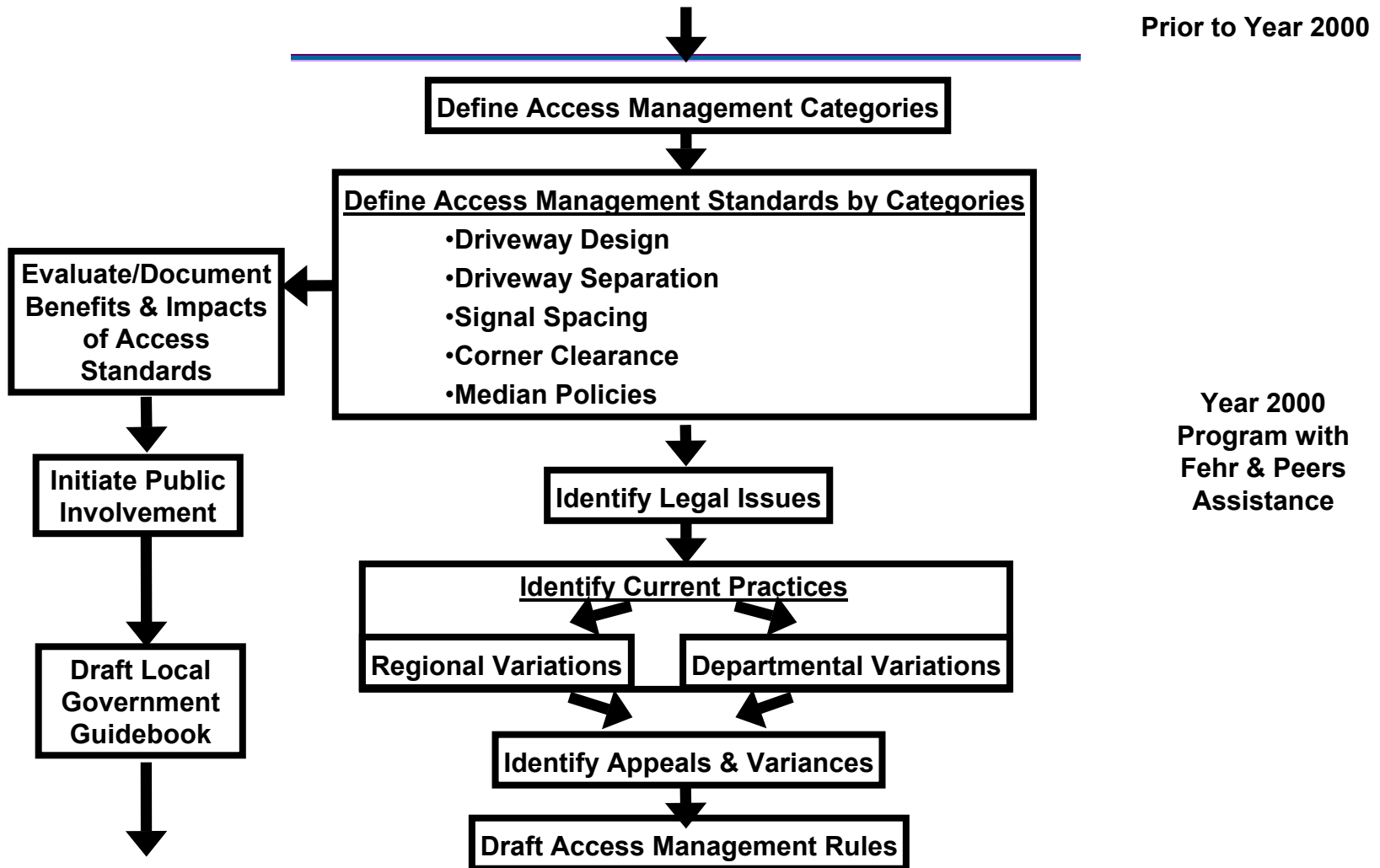
Legislative
Support:
Enabling Power,
Local
Governments

Develop A.M.
Corridor Plans

Begin Rule &
Program Update



PROJECT WORK SCOPE





Access Management Program Establish Authority

- **White Paper Legal Review**
- **State of Utah Code : Rule 930-6**
Manual for the Accommodation of Utilities and the Control and Protection of State Highway Rights of Way
- **State of Utah Code:**
 - 72-7-103 : Limitation on Access Authority
 - 72-2-117 : Corridor Preservation Revolving Loan Fund
 - Call for development of Model Access Ordinance for UDOT
 - Updated HB 218, 2001: amended to include permit process
- **State Code Referring to Limited Access :**
 - 72-1-202, 72-6-117 Outlined process to break LA & NA lines
- **Exaction Power of the Department**



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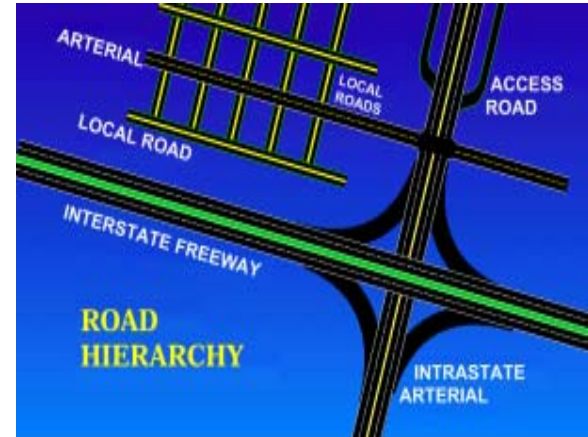




HIGHWAY ACCESS CATEGORY DEVELOPMENT

CATEGORY DEVELOPMENT GUIDELINES

- Preserve System Mobility
- ID: NHS Routes, High Priority Routes
- Function Class and Posted Speeds
- Urban / Rural Designations
- Adjacent Development Intensity



Interstate	
<u>Urban</u>	<u>Rural</u>
Statewide Importance	Statewide Importance
Regional Importance	Regional Importance
• Fluid Development	
• Static Importance	
Community Importance	Community Importance
Other	



HIGHWAY ACCESS CATEGORY DEVELOPMENT

State Highway Access Categories

Category Assignment		System Level of Importance
1	I	Freeway/Interstate
2	S-R	Statewide Rural
3	S-U	Statewide Urban
4	R-R	Regional Rural
5	R-UF	Regional Urban Fluid
6	R-US	Regional Urban Static
7	C-R	Community Rural
8	C-U	Community Urban
9	O	Other

System Level of Importance	Area Type	
	Urban	Rural
Interstate	Federal Interstate Standards	
Statewide	Move traffic at high speeds (generally greater than 50 mph) over long distances (generally over 10 miles) with emphasis on high speed safety and efficiency.	Moves traffic at high speeds (generally greater than 60 mph) over long distances (generally over 20 miles) with emphasis on high speed safety and efficiency.
Regional: Fluid Development	Move traffic across multiple communities or jurisdictions, typically connecting to facilities of Statewide or Interstate importance and through areas that have significant potential for development or redevelopment of adjacent land to the highest and best use.	Move traffic across multiple communities or jurisdictions, typically connecting to facilities of Statewide or Interstate importance. General speed range is greater than 50 mph and general trip distance is greater than 10 miles.
Regional: Static Development	Move traffic across multiple communities or jurisdictions, typically connecting to facilities of Statewide or Interstate importance but through areas that are significantly developed to the point where function (travel speed and capacity) has eroded (generally).	
Community	Moves traffic through a single community or to an adjacent community but not generally used for long distance (greater than 5 mile) travel.	Moves both regional and local traffic but with emphasis on local movements such as those common on small city Main Streets.
Other	Frontage roads, critical connections of short distance, and other special use facilities.	



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ACCESS CATEGORY STANDARD DEVELOPMENT

- 1. Signal Spacing**
- 2. Unsignalized Spacing**
- 3. Corner Clearance**
- 4. Medians**
- 5. Access Separation at Interchanges**
- 6. Speed Change Lanes (Acceleration / Deceleration)**
- 7. Driveway Design**



ACCESS CATEGORY STANDARD DEVELOPMENT

1. Signal Spacing
 - Progression
 - Cycle Length





ACCESS CATEGORY STANDARD DEVELOPMENT

1. Signal Spacing
2. Unsignalized Spacing
 - Right turn overlap conflict reduction
 - 15 mph speed differential





ACCESS CATEGORY STANDARD DEVELOPMENT

1. Signal Spacing
2. Unsignalized Spacing
3. Corner Clearance
 - Also reducing right turn overlap conflict
 - Allowance for isolated corner properties





ACCESS CATEGORY STANDARD DEVELOPMENT

1. Signal Spacing
2. Unsignalized Spacing
3. Corner Clearance
4. Medians
 - By Policy
 - By Application





ACCESS CATEGORY STANDARD DEVELOPMENT

1. Signal Spacing
2. Unsignalized Spacing
3. Corner Clearance
4. Medians
5. Access Separation at Interchanges
 - Weave Distance
 - Transition Distance to Left Turn Lanes





ACCESS CATEGORY STANDARD DEVELOPMENT

1. Signal Spacing
2. Unsignalized Spacing
3. Corner Clearance
4. Medians
5. Access Separation at Interchanges
6. Speed Change Lanes (Acceleration /Deceleration)
 - UDOT standard drawings speed change lane
7. Driveway Design
 - UDOT standard drawings driveway design



Proposed Access Management Category Standards

- **Proposed Spacing Standards;**
 - Signals
 - Streets,
 - Access Points
 - Location to Interchange

Access Category		Minimum Signal Spacing (feet)	Minimum Street Spacing (feet)	Minimum Access Spacing (feet)	Minimum Interchange Crossroad Access Spacing (feet)		
					R-in/R-out	Signal	Ramp
					A	B	C
1	I	Freeway/Interstate Standards Apply					
2	S-R	5,280	1,000	1,000	1,320	1,320	1,320
3	S-U	2,640	No Unsignalized Access Permitted		1,320	1,320	1,320
4	R-R	2,640	660	500	660	1,320	500
5	R-UF	2,640	660	350	660	1,320	500
6	R-US	2,640	350	200	500	1,320	500
7	C-R	1,320	300	150	Not Applicable		
8	C-U	1,320	300	150			
9	O	1,320	300	150			



Access Design Standards

Access Width, Clearance, Radii

State Highway Access Widths

Land Use	Direction Use	Minimum Access Width (feet)	Maximum Access Width (feet)
Commercial or Industrial	two-way	25	50
	one-way	16	30
Residential	two-way or one-way	12	20
Farm	two-way or one-way	16	32

State Highway Edge Clearance

Land Use	Minimum Edge Clearance (feet)	
	Urban Areas	Rural Areas
Commercial or Industrial	10	15
Residential or Farm	15	20

State Highway Access Radii

Land Use	Access Radii (feet)			
	Urban Areas		Rural Areas	
	Min.	Max.	Min.	Max.
Commercial or Industrial	30	60	25	65



Access Design Standards Grade & Approach Angle

Recommended Driveway Grade Change

Volume Level	Driveway Volume (ADT)	Minimum Grade Change (D)	Maximum Grade Change (D)
Low	0-500	±6%	Controlled by vehicle clearance
Medium	501-1500	±3%	±6%
High	> 1501	0%	±3%

State Highway Driveway Angles

Land Use		Desirable	Minimum
Commercial or Industrial	Two-Directional Use	90°	80°
	One-Directional Use - Right Turns Only Egress or Ingress	90°	60°
Residential or Farm		90°	80°



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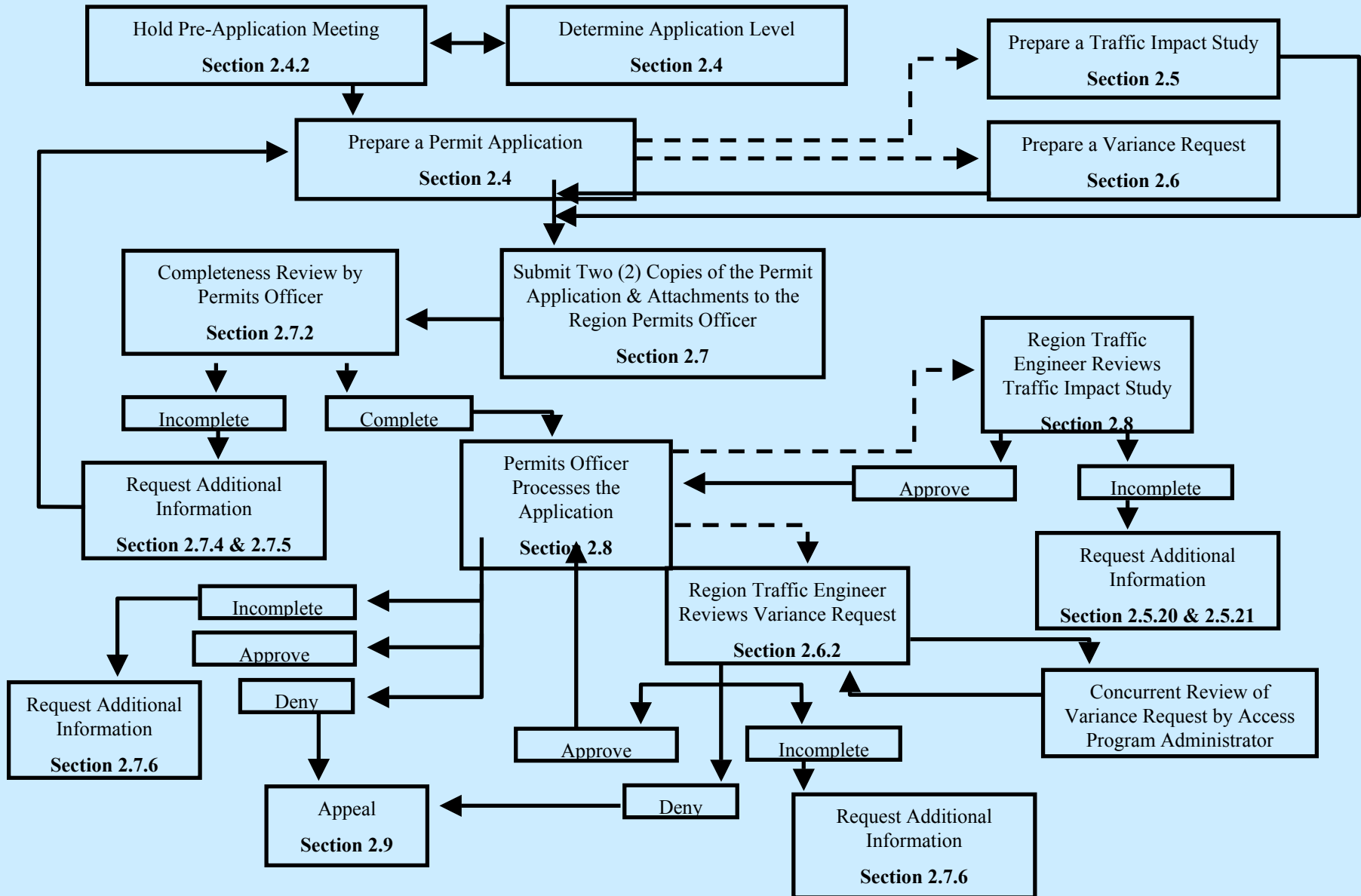




EXISTING PERMIT PROCESS

1. **UDOT Permit Process separate from Local Government development process**
2. **Site Plan distributed in UDOT Region sequentially for analysis review (with assistance as needed from HQ)**
3. **Permit approval loosely administered through:**
 - **Region Director, or designee**
 - **Permit Officer**
4. **N/A or L/A approval by Deputy Director**
5. **Process not administered uniformly across state**
6. **Appeals process not consistent**

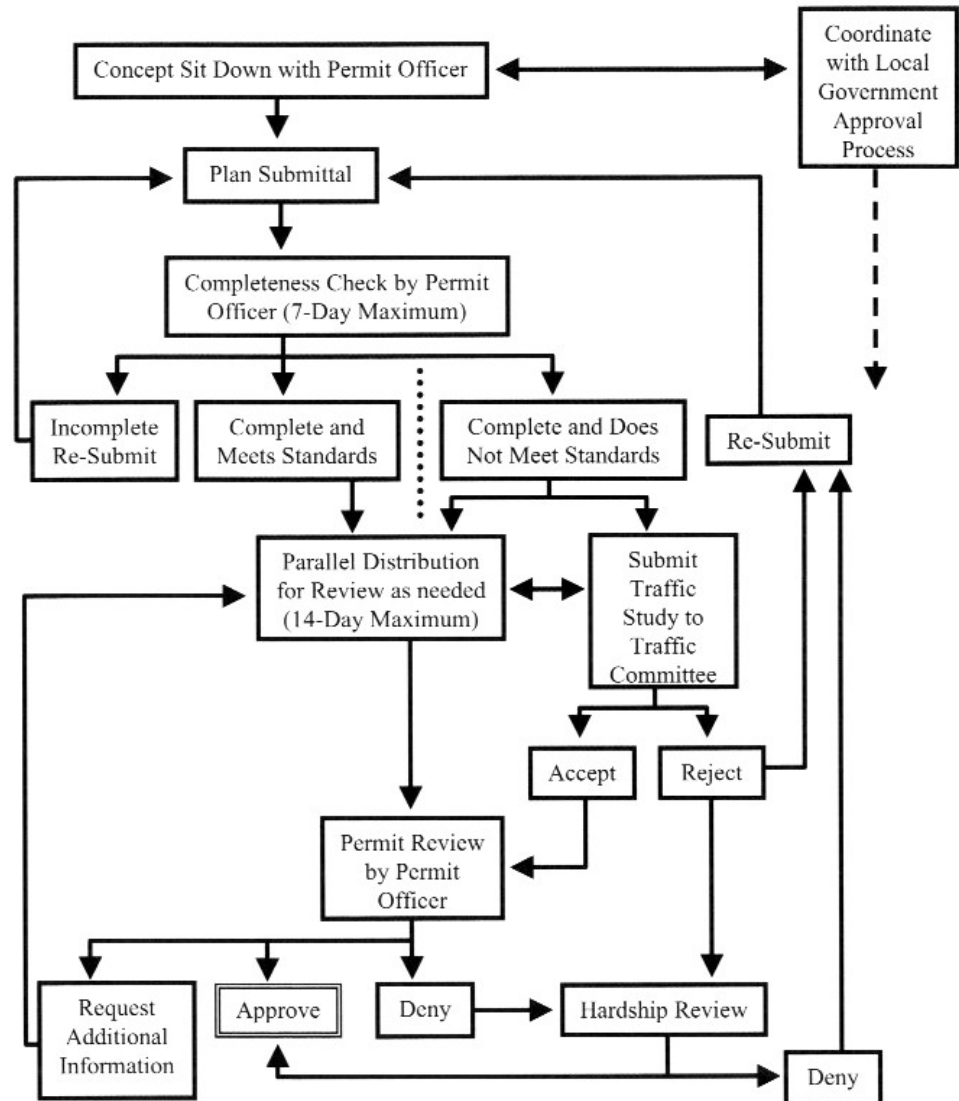
Figure 2-1: Access Permit Process





PROPOSED PERMIT PROCESS

UDOT Access Management Program Draft Revised Permit Process





Permit Application Checklist

APPLICANT CHECKLIST

- 1) Aerial photo of development site for subdivisions, large office/ shopping centers or sites expected to generate more than 500 Vehicle Trips Per Day (VTPD).
- 2) Site circulation and parking layout.
- 3) Location of existing median openings serving the property.
- 4) Location of all public streets serving the property
- 5) Property lines and ownership of abutting parcels and all out-parcels.
- 6) Location of buildings and other features that affect sight distance or circulation on public roads.
- 7) Pavement Profile. Pavement should meet UDOT specifications and standards.
- 8) Inset Site Location Map.
- 9) Driveway profile.
- 10) Typical section that locates curb, gutter, and sidewalk that meet ADA specifications.
- 11) Utilities in the right of way.
- 12) Hydraulic and drainage calculations, site plan to include existing and proposed drainage features. UDOT storm drains can not be used.
- 13) Signing and striping sheets.
- 14) Traffic Impact Analysis Document.



Access Permit & Traffic Impact Study Determination

Traffic Impact Study Thresholds Type I-IV Permit

* Developing TIS
Preparation Guidelines

Permit Level	Traffic Thresholds
I	Projected site traffic < 100 ADT
II	Projected site traffic between 100 and 3,000 ADT or Projected peak hour traffic > 500 or Highway Access Category 4,5 or 6
III	Projected site traffic between 3,000 and 10,000 ADT or Projected peak hour traffic between 500 and 1,200 or Highway Access Category 2,3
IV	Projected site traffic > 10,000 ADT or Highway Access Category 1



UDOT Access Permit Process: Draft Form

- * Internal Effort to Develop Internet Application and Tracking System

* This application is for UDOT only *Explanatory notes and checklist are on the reverse side

1) Property Owner (Permittee)			2) Applicant		
Street Address & City			Street Address & City		
State & Zip	Phone #	Fax #	State & Zip	Phone #	Fax #
3) Address of property to be served by permit (if known)					
4) Legal description of property		County:		City:	
Subdivision	Block	Lot	Section	Township	Range
5) What state highway are you requesting access from?			6) What side of the highway is the access? (circle) N S E W		
7) How many feet is the proposed access from the nearest milepost? _____ Feet (circle) N E E W From _____			How many feet is the proposed access from the nearest cross street? _____ Feet (circle) N S E W From _____		
8) Check here if you are requesting a <input type="checkbox"/> new access <input type="checkbox"/> temporary access <input type="checkbox"/> improvement of existing access <input type="checkbox"/> change in access use <input type="checkbox"/> removal of access					
9) What is the approximate date you intend to begin construction?					
10) Do you have any knowledge of any state highway access permits serving this property, or adjacent properties in which you have a property interest? <input type="checkbox"/> No <input type="checkbox"/> Yes, if yes - what are the permit number(s)? _____ and/or permit date: _____					
11) Does the property owner own or have any interests in any adjacent property? <input type="checkbox"/> No <input type="checkbox"/> Yes, if yes - please describe: _____					
12) Are there other existing or dedicated public streets, roads, highways or access easements bordering or within the property? <input type="checkbox"/> No <input type="checkbox"/> Yes, if yes - list them on your plan and indicate the proposed and existing access points.					
13) If you are requesting commercial or industrial access please indicate the types and number of businesses and provide the floor area of each:					
Business		Square Footage		Business	
14) If you are requesting agricultural field access - how many acres will the access serve?					
15) If you are requesting residential development access, what is the type (single family, apartment, townhouse) and number of units?					
Type		Number of Units		Type	
16) Provide the following on the site plan and application:					
a) Access width _____ ft		b) Radius of curvature of access _____ ft		c) Design Speed of Road _____ mph	
d) Sight distance in both directions		Distance (a) Distance (b)		e) Edge clearance in both directions	
Distance (a) Distance (b)		Distance (a) Distance (b)		Distance (a) Distance (b)	
f) Corner clearance		Distance (a) Distance (b)		g) Access Spacing	
Distance (a) Distance (b)		Distance (a) Distance (b)		Distance (a) Distance (b)	
h) Frontage length of property _____ ft		i) Right of way width: Existing _____ ft Proposed _____ ft			
17) Have all necessary permits and agreements been obtained? <input type="checkbox"/> Yes <input type="checkbox"/> No					
18) Complete checklist of items on reverse side and attach plan sheets (Plans must be legible size 11"x 17" or 36"x 24")					
If an access permit is issued to you, it will state the terms and conditions for its use. Any changes in the use of the permitted access not consistent with the terms and conditions listed on the permit may be considered a violation of the permit.					
The applicant declares under penalty of perjury in the second degree, and any other applicable state or federal laws, that all the information provided on this form and submitted attachments are to the best of their knowledge true and complete.					
Applicant's Signature				Date	
If the applicant is not the owner of the property, we require this application also to be signed by the property owner or their legally authorized representative (or other acceptable written evidence). This signature shall constitute agreement with this application by all owners-of-interest unless stated in writing. If a permit is authorized, the property owner will be listed as the permittee.					
Property Owner's Signature				Date	



Permit Fee Schedule Estimate

UDOT Permit Survey FY2000

UDOT Access Permits FY2000	Type 1	Type 2	Type 3	Type 4
New Request	51	333	311	428
Temp Access	12	3	12	8
Improvement of existing	37	108	118	34
Access Change	13	22	19	18
Removal	8	15	13	4
Total	121	481	473	492

EMPLOYEE TIME ESTIMATE ACCESS PERMIT REVIEW; Permit Process

Permit Process Step : Initial Concept	Type 1	Type 2	Type 3	Type 4
Encroachment & Permits Officer	10	20	30	60
Encroachment & Permits Officer I	10	15	15	30
Maintenance Area Supervisor	0	0	0	0
Office Tech III – Preconstruction Secretary	0	0	0	0
Permits Inspector	10	15	30	40
Permits Office Tech III	30	60	60	120
Permits Officer	20	30	30	60
Permits Officer II	10	30	30	90
Region Environmental/Hydraulic Engineer	0	0	0	0
Region Right of Way Control Coordinator	15	20	60	60
Region Three Right of Way Engineer	10	10	30	30
Region/District R/W control coordinator	0	0	0	0
Right Of Way Control Coordinator	22.5	37.5	60	90
Traffic Engineer	0	0	0	0

Type	Cost
Type 1	\$357.51
Type 2	\$456.52
Type 3	\$562.81
Type 4	\$1,126.08

* Permit Survey performed by state of Utah, CPM class.

* Survey determined not to be representative of all UDOT Regions



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Access Management Program Utility Manual Draft

ACCOMPLISHED TASKS

- ❑ **Draft Developed** (Manual for the Accommodation of Utilities and the Control and Protection of State Highway Rights of Way, Chapter 7 : Driveways)

- Authority (white paper)
- Permit Process
- Access Categories
- Category Standards
- Design Standards

CURRENT EFFORT

- Permit Form / Letters
- Traffic Impact Study Guide
- Permit Fee Schedule
- Assign Access Categories

TO DO LIST

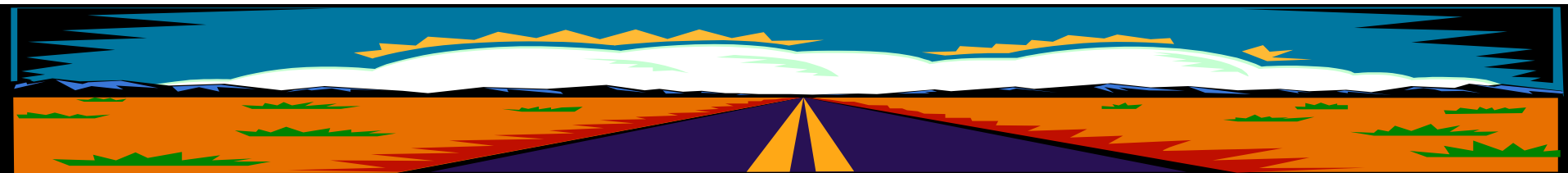
- Finalize Permit Process & Fee Schedule Study
- Re-Write Ch.7 Utility Manual
- Rule Making
- Training / Local Outreach
- Permit Tracking
- Internet / GIS Application



Retrospective & Suggestions

Expect to fix what was thought to be broken

- **Strive to include in or enhance existing State Code**
- **Use other Access Programs as model**
- **Perform legal review to ID authorization to operate**
- **Find fault with process internal and external**
- **Form steering & peer review groups, be representative of all users**
- **Define permit process to include Local Government & MPO's**
- **Hire consultant for standards and process draft to remain impartial in development of**
- **Communicate process and standards, develop on-going education and training – internal / external**
- **Review Fee Structure**
- **Implement what you can as developed to see if it works**
- **Identify who customers are and coordinate with all constantly**





Access Management Program

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